USACHPPM
Readiness thru Health

18-044-0207
February 2007

Just the Facts...

Using Insect Repellents on Children

Insect repellents help reduce the exposure of children to insect bites, which can cause local allergic reactions and some diseases. Of particular concern are bites from mosquitoes and ticks. Mosquitoes can carry viruses and parasites that cause West Nile virus or other diseases. Ticks can carry the bacteria and other pathogens that cause Lyme disease and other illnesses. Taking care to prevent exposure to the insects that carry these diseases is important to maintain the health of children when they spend time outdoors.

BASIC FACTS ABOUT INSECT REPELLENTS:

- The Centers for Disease Control and Prevention (CDC) recommends that people use products that have been shown to be effective in scientific trials and that contain chemicals that have been registered with the U.S. Environmental Protection Agency (EPA) for use as insect repellents.
- When the EPA registers an insect repellent, they evaluate the product for efficacy and potential effects on human beings and the environment. EPA registration means that the EPA does not expect a product, when used according to the instructions on the label, to cause unreasonable adverse effects to human health or the environment.
- Generally, the more active ingredient a repellent product contains, the longer it provides protection from bites. The concentration of different active ingredients cannot be directly compared (that is, a 10% concentration of one insect repellent doesn't necessarily work the same as a 10% concentration of a different insect repellent).
- People who are concerned about using insect repellents on themselves or their children may wish to consult their health care provider for advice. The National Pesticide Information Center (NPIC) can also provide information through their toll-free number, 1-800-858-7378 or online at www.npic.orst.edu

Q. ***Which insect repellents work best?***
A. Of the insect repellents registered by the EPA, two have demonstrated a higher degree of protection in scientific studies. Products containing these active ingredients typically provide longer-lasting protection than others. They are: **DEET (N, N-diethyl-m-toluamide)** and, more recently, **picaridin (KBR 3023)**.

Q. ***Can insect repellents be used on children?***
A. Yes. The label on an insect repellent product must state if there is any age restriction. If no age limitations are listed, the EPA has determined that the product is safe to use on a child, when applied according to the instructions on the label.

Q. ***Is DEET safe for use on children? What about picaridin?***
A. According to the American Academy of Pediatrics (AAP), no serious illness has been linked to the use of DEET in children when used according to the manufacturer's recommendations. The AAP has determined that insect repellent products with a concentration of 10% DEET are as safe as products with a concentration of 30%, and advises that DEET may be used safely on children and infants greater than 2 months old. The AAP has not yet issued specific recommendations or opinion regarding the use of picaridin on children.

Q. ***Are there any "natural" insect repellents?***
A. The EPA has registered a few natural, plant-based insect repellents. Of those, oil of lemon eucalyptus (p-menthane-3,8-diol) provides longer lasting protection than other plant-based repellents. However, it is not as effective as DEET or picaridin, and according to its label, **SHOULD NOT be used on children under 3 years old**.

Q. ***Are there any side effects resulting from the use of repellents?***
A. As with most substances, a small number of individuals may be exceptionally sensitive to a particular repellent. In these individuals, a skin reaction such as rash or hot sensation is generally the most common side effect experienced. If this happens, discontinue use of the repellent immediately and wash the affected area with soap and water. These effects are usually mild and do not last long. However, you may wish to contact your health care provider for advice.

Because repellents may sometimes cause a skin reaction in a sensitive individual, parents or guardians should apply repellent to children once or twice at home before it is used in a child care setting to be sure the child is not sensitive or allergic to it. If there is a reaction, wash the affected skin with soap and water. Child care staff should contact the parent or guardian so that they can seek medical advice if necessary.

THINGS TO REMEMBER WHEN APPLYING INSECT REPELLENTS

- FOLLOW LABEL DIRECTIONS.
- Apply a thin, even coating to all exposed skin; a heavier application does not work better.
- Do not apply to skin that is underneath clothing.
- Do not spray aerosol or pump repellents directly to your face and do not breathe in the vapors. Spray your hands and then rub them carefully over your face, avoiding your eyes and mouth.
- Do not apply to broken, irritated, or sunburned skin.
- Wash skin with soap and water when your exposure to insects has ended.

ADDITIONAL GUIDELINES WHEN USING REPELLENTS ON CHILDREN

- Keep repellents out of reach of children.
- Do not allow young children to apply insect repellent to themselves; have an adult do it for them.
- When applying repellent to a child, apply it to your own hands and then rub them on the child. Avoid children's eyes and mouth and use it sparingly around their ears.
- Do not apply repellent to children's hands because they tend to put their hands in their mouths and eyes.

Q. ***Can sunscreen and insect repellent be used at the same time?***
A. Yes. It is important for people, including children, to use both an insect repellent and a sunscreen if they are outdoors in the sun in an area where insect pests are present. Although some products combine insect repellent and sunscreen, such products should be used cautiously because repellents and sunscreens do not generally need to be reapplied with the same frequency. Individual repellent and sunscreen products can better be reapplied as necessary based on insect biting pressure and sun intensity. However, for relatively short outdoor excursions, a combination product may be sufficient – be sure to always follow the label on whatever product you are using.

When using both a sunscreen and an insect repellent, apply the sunscreen first so that it can bind to the skin, preferably ½ to 1 hour prior to applying the repellent.

Q. ***In addition to using repellents, how else can children (or adults) be protected from insect bites?***
A. Clothing acts as a physical barrier to insects, so wear long pants and long sleeves while outdoors to help prevent mosquito bites. Tuck pant cuffs into socks and shirt into pants to prevent ticks from crawling underneath clothing. After returning indoors, check children carefully for the presence of ticks or insect bites. Mosquito netting can be placed over infant carriers. Mosquito populations may be reduced by getting rid of containers with standing water that provide breeding places. Tick populations can be reduced by keeping grass mowed short, reducing harborage (hiding and living spaces) for mice and other animals, and making sure that garbage or other food sources are not available.

FURTHER INFORMATION

U.S. Environmental Protection Agency (EPA): http://www.epa.gov/
DEET fact sheet: http://www.epa.gov/pesticides/factsheets/chemicals/deet.htm
Picaridin fact sheet: http://www.epa.gov/opprd001/factsheets/picaridin.pdf
Centers for Disease Control and Prevention (CDC): http://www.cdc.gov/
Fact Sheet – Insect Repellent Use and Safety: http://www.cdc.gov/ncidod/dvbid/westnile/qa/insect_repellent.htm
American Academy of Pediatrics (AAP): http://www.aap.org/

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